

## CLAIMS

### What is claimed is:

1. A thermal enhance package, comprising:
  - a substrate unit having an upper surface and a lower surface opposed to the upper surface;
  - a chip having an active surface and a back surface opposed to the active surface;
  - a plurality of conductive devices, the conductive devices electrically connecting the active surface of the chip and the upper surface of the substrate unit;
  - a plurality of pellets formed on the upper surface of the substrate unit and surrounding the chip; and
  - a heat spreader unit disposed above the chip and the pellets, wherein the heat spreader unit is connected to the pellets.
2. The thermal enhance package of claim 1, further comprising a plurality of solder balls formed on the lower surface of the substrate unit.
3. The thermal enhance package of claim 1, wherein the conductive devices comprise conductive bumps and the conductive bumps connects the chip and the substrate.
4. The thermal enhance package of claim 1, wherein the conductive devices comprises conductive wires and the back surface of the chip is attached on the upper surface of the substrate unit.
5. The thermal enhance package of claim 4, further comprising an encapsulation unit encapsulating the chip, the conductive wires, the pellets and the heat spreader unit.

6. The thermal enhance package of claim 1, wherein the pellets are thermally conductive bumps.
7. The thermal enhance package of claim 1, wherein the pellets are thermally conductive adhesive bodies.
8. The thermal enhance package of claim 7, wherein the thermally conductive adhesive bodies has metal powder therein.
9. The thermal enhance package of claim 1, wherein the pellets are electrically conductive bumps.
10. The thermal enhance package of claim 3, the conductive bumps are metal bumps.
11. The thermal enhance package of claim 3, the conductive bumps are electrically conductive adhesive bodies.
12. The thermal enhance package of claim 1, wherein a material of the substrate unit comprises organic, and a mask layer is formed on the upper surface of the substrate unit and exposes at least one grounding contact connecting to one of the pellets.
13. The thermal enhance package of claim 1, wherein the substrate unit is a lead frame.
14. The thermal enhance package of claim 13, wherein the lead frame is a lead-less lead frame.
15. The thermal enhance package of claim 1, wherein a chromium layer is formed on a surface of the heat spreader unit.
16. A thermal enhance package manufacturing method, comprising:  
  
providing a substrate in the form of a matrix, wherein the substrate has a

plurality of substrate units, and the substrate unit has an upper surface and a lower surface;

forming a plurality of pellets on the upper surface of each substrate unit;

providing a plurality of chips;

disposing each of the chips on each of the substrate units respectively;

electrically connecting each of the chips to each of the substrate units respectively;

providing a heat spreader in the form of a matrix having a plurality of heat spreader units;

attaching each of the heat spreader units to each of the substrate units respectively;

encapsulating the chips, the substrate and the heat spreader to form an encapsulation; and

singulating the encapsulation into the thermal enhance packages.

17. The thermal enhance package manufacturing method of claim 16, wherein a material of the substrate unit comprises organic, and a mask layer is formed on the upper surface of the substrate unit and exposes at least one grounding contact connecting to one of the pellets.
18. The thermal enhance package manufacturing method of claim 16, wherein a chromium layer is formed on a surface of the heat spreader.
19. The thermal enhance package manufacturing method of claim 16, further comprising a plurality of solder balls formed on the lower surface of the substrate unit.